

State of New Jersey

Department of Environmental Protection
Air Quality Permitting

General Permit
(GP-009)
for
Boiler(s)
And
Other Indirect Fired External Combustion Equipment
[≥ 10 MMBTU per hour and < 50 MMBTU per hour]

This General Permit (GP - 009) allows for the construction, installation, reconstruction and operation of a single boiler or multiple boilers or other indirect fired external combustion equipment firing natural gas, propane, kerosene, diesel oil or No. 2 fuel oil exclusively or firing natural gas or propane with limited back-up of kerosene, diesel oil, or No. 2 fuel oil. Any equipment permitted by this General Permit must meet the applicability requirements outlined below:

1. Equipment included in this permit must be either a boiler or indirect fired external combustion equipment.
2. The equipment must combust only the following fuels: natural gas, propane, kerosene, diesel oil or No. 2 fuel oil.
3. The individual equipment must have a maximum heat input capacity of greater than or equal to 10 million BTU per hour but less than 50 million BTU per hour.
4. Each piece of equipment covered by this permit shall be equipped with a Low NO_x burner(s) or a Low NO_x burner(s) with Flue Gas Recirculation that meets the Equipment/Control Specifications in Section V of the General Permit.
5. Each piece of equipment covered by this permit shall vent to a stack with a height no less than thirty (30) feet above ground level.
6. Each facility may possess only one GP-009 at any time. A facility wishing to change this General Permit by adding new equipment or modifying existing equipment must follow the procedure listed in Applicability, Section III of the General Permit.

I. Definitions

The terms used in this General Permit shall have the meanings given to them in N.J.A.C. 7:27-3, 4, 8, 9, 16 & 19, or as defined below:

"Direct Fired External Combustion" means an external combustion process in which heat from the combustion of fuel is transferred by direct contact to a substance being heated and in which the products of combustion from the burning of fuel come in contact with the substance being heated. Examples of direct-fired external combustion equipment include space heaters.

"Equipment subject to NSPS Dc" means, a steam generating equipment for which construction, modification, or reconstruction commenced after June 9, 1989 and that has a maximum design heat input capacity of 100 million BTU per hour or less, but greater than or equal to 10 million BTU per hour.

"External Combustion Equipment" means a steam generating unit (boiler or heater) that generates steam to supply heat to an industrial process, institutional or commercial operation. This term does not include internal combustion engines or boilers that serve electric generating equipment and cogeneration facilities.

"(HHV)" or "Higher Heating Value" means the total heat obtained from combustion of a specified amount of fuel and its stoichiometrically correct amount of air, both being at 60 degrees Fahrenheit when combustion starts, and the combustion products being cooled to 60 F before the heat release is measured.

"In-line flow meter" means a dedicated measuring and/or monitoring device, usually installed between a facility-wide meter and combustion equipment, to total year-to-date fuel consumed by combustion equipment.

"Indirect Fired External Combustion" means an external combustion process in which heat from the combustion of fuel is transferred by conduction through a heat conducting material to a substance being heated, so that the latter is not contacted by, and adds nothing to, the products of combustion. Examples of indirect fired external combustion equipment include boilers and water heaters.

"Indirect Fired External Combustion Equipment " or "Equipment" means a boiler or other external combustion equipment that burns fuel in a process where the heat from the combustion of fuel is transferred by conduction through a heat conducting material to a substance being heated, so that the latter is not contacted by, and adds nothing to, the products of combustion. Examples of indirect fired external combustion equipment include boilers and water heaters.

"Internal combustion engine" mean either a reciprocating engine or a combustion turbine in which power, produced by heat and/or pressure that is developed in the engine combustion

chamber(s) by the burning of a mixture of air and fuel, is subsequently converted to mechanical work.

"Low NOx Burner" A burner design that is capable of reducing the formation of thermal NOx emissions by creating two or more stages of combustion which lower the peak flame temperature and limit the oxygen levels.

"Low NOx Burner with Flue Gas Recirculation" A low NOx burner design capable of reducing the formation of NOx emissions by dilution of combustion air with inert flue gas thereby reducing the flame temperature beyond those means utilized in a low NOx burner assembly alone.

"Maximum heat input rate" means, for a given piece of fuel-burning equipment, its maximum steady state fuel firing rate, in BTU per hour of gross heat input as determined by the design rating of the equipment manufacturer.

"Permitted gaseous fuel" means, natural gas or propane.

"Permitted liquid fuel" means, kerosene, diesel oil or No. 2 fuel oil.

"Steam generating unit" means fuel-burning equipment or combustion equipment that combusts any fuel in order to produce steam or to heat water or any other heat transfer medium.

II. Authority

This GP is issued under the authority N.J.S.A. 26:2C-9.2. This general permit shall allow for inspections and evaluations to assure conformance with all provisions of N.J.A.C. 7:27 et seq. An opportunity for public comment on this General Permit was provided on July 7, 2003 and November 17, 2003.

III. Applicability

This General Permit (GP-009) allows for the construction, installation, reconstruction and operation of a single boiler or multiple boilers or other indirect fired external combustion equipment firing natural gas, propane, kerosene, diesel oil or No. 2 fuel oil exclusively or firing natural gas or propane with limited back-up of kerosene, diesel oil, or No. 2 fuel oil. Any equipment permitted by this General Permit must meet the applicability requirements outlined below:

1. Equipment included in this permit must be either a boiler or indirect fired external combustion equipment.
2. The equipment must combust only the following fuels: natural gas, propane, kerosene, diesel oil or No. 2 fuel oil.
3. The individual equipment must have a maximum heat input capacity of greater than or equal to 10 million BTU per hour but less than 50 million BTU per hour.

4. Each piece of equipment covered by this permit shall be equipped with a Low NOx burner(s) or a Low NOx burner(s) with Flue Gas Recirculation that meets the Equipment/Control Specifications in Section V of the General Permit.
5. Each piece of equipment covered by this permit shall vent to a stack with a height no less than thirty (30) feet above ground level.
6. Each facility may possess only one GP-009 at any time. A facility wishing to change this General Permit by adding new equipment or modifying existing equipment must follow the procedure listed in the note below.

Note: A facility wishing to add a new piece of equipment to this General Permit or modify an existing piece of equipment included in this General Permit or modify an existing piece of equipment not included in this General Permit must supercede the exiting registration with a new registration.

IV. Exclusions

1. This general permit cannot be used for individual combustion equipment having a maximum rated gross heat input (*nameplate*) capacity of greater than or equal to 50 MM BTU per hour;
2. This general permit cannot be used for combustion equipment less than 10 MMBTU per hour (these sources should see the applicability of GP-006A);
3. This general permit cannot be used for equipment that vents to a stack with a height less than thirty (30) feet above ground level.
4. This general permit cannot be used for emergency generators, fire pumps or any other internal combustion engines (some of these sources may register under GP-005);
5. This general permit cannot be used for boilers or other indirect fired external combustion equipment with a fuel limiting device such as - an orifice plate restriction - or control valve limiting mechanism or any device that lowers the maximum heat input rating of the boilers or other indirect fired external combustion equipment to less than 50 MMBTU per hour while having a (*nameplate*) capacity of greater than 50 MMBTU per hour;
6. This general permit cannot be used for boilers or other indirect fired external combustion equipment that combust other commercial liquid fuels, such as No.4, No. 5 or No.6 fuel oil or any solid fuels;
7. This general permit cannot be used for combustion equipment burning non-commercial fuels including crankcase oil, spec-oil, or any other used oils, landfill or refinery gas, facility byproducts, or any other type of waste materials, exclusively or in mixtures with commercial fuels;
8. This general permit cannot be used for direct-fired external combustion processes including but not limited to space heaters or process heaters associated with a manufacturing process; or
9. This general permit cannot be used for incinerators, furnaces, kettles, crucibles, stills, roasters, re-boilers, engines, kilns, and other combustion equipment that does not meet Section II. Applicability.

V. Equipment/Control Specifications

Each piece of equipment covered by this permit shall be equipped with a Low NOx burner(s) or a Low NOx burner(s) with Flue Gas Recirculation that meets the emission levels listed below.

Fuel	Pollutant	Emission Levels (Lb./MMBTU)	PPMVD @ 3% O₂
Natural Gas	NOx	0.0350	29.0
	CO	0.0500	68.0
	VOC	0.00500	
*Distillate Oil	NOx	0.0600	47.0
	CO	0.0390	51.0
	VOC	0.0100	

*** Sulfur content in liquid fuels is limited to a maximum of 0.05 % by weight.**

VI. Potential-To-Emit (PTE) Options

There are seven PTE caps, in tons per year, for Option A or B and six PTE caps for Option C. For Option A and B, the annual PTEs are calculated for all equipment in this GP using the total annual fuel use and typical fuel heat content. These options allow the use of any of the permitted fuels. For Option C, the PTE is based on the total annual fuel usage for any of the permitted gaseous fuels and a maximum back up permitted liquid fuel usage of 500,000 gallons. When registering for this general permit, only one general permit number can be selected from only one of the options. (Option A or Option B or Option C)

Option A. (Burning permitted gaseous fuels)

Single equipment or multiple pieces of equipment, with each piece of equipment having a maximum rated gross heat input capacity of greater than or equal to 10 million BTU per hour and less than 50 million BTU per hour burning only natural gas or propane. The combined maximum annual gaseous fuel limit ranges from 100 million cubic feet to 700 million cubic feet based on the option selected. The fuel limit is monitored by an individual in line flow meter on each piece of equipment; or

Option B. (Burning permitted liquid fuels)

Single equipment or multiple pieces of equipment, with each piece of equipment having a maximum rated gross heat input capacity of greater than or equal to 10 million BTU per hour and less than 50 million BTU per hour burning only number 2 fuel oil, diesel or kerosene. The combined maximum annual liquid fuel limit ranges from 200,000 gallons to 1.4 million gallons based on the option selected. The fuel limit is monitored by an individual in line flow meter on each piece of equipment; or

Option C. (Burning permitted gaseous fuels with backup of permitted liquid fuels)

Boilers and other Indirect Fired External Combustion Equipment
[10 MMBTU/hr or greater and less than 50 MMBTU/hr].
General Permit

Single equipment or multiple pieces of equipment, with each piece of equipment having a maximum rated gross heat input capacity of greater than or equal to 10 million BTU per hour and less than 50 million BTU per hour burning natural gas or propane and with number 2 fuel oil, diesel or kerosene as a back up fuel. The combined maximum annual gaseous fuel limit ranges from 100 million cubic feet to 600 million cubic feet based on the option selected. The maximum annual back-up liquid fuel limit is 500,000 gallons. The maximum daily back-up liquid fuel limit is 4,000 gallons per day. The fuel limits for each fuel are monitored by individual in-line flow meters on each piece of equipment.

NOTE: When registering for this general permit, only one general permit number can be selected from only one of the options. (Option A or Option B or Option C)
Selection of a general permit number in one of the following options establishes a permit potential to emit for the following contaminants:

Option A (Burning permitted gaseous fuels)						
Tons per year (TPY) Potential to emit limits established by selecting annual fuel use category regardless of boiler heat input rating or number of pieces of equipment.						
General Permit Number	Natural Gas MMCF/Yr.	PM (TPY)	SO₂ (TPY)	CO (TPY)	VOC (TPY)	NO_x (TPY)
LNB- A1	100	0.380	0.030	2.55	0.260	1.78
LNB- A2	200	0.760	0.060	5.10	0.510	3.57
LNB- A3	300	1.14	0.090	7.65	0.760	5.36
LNB- A4	400	1.52	0.120	10.2	1.02	7.14
LNB- A5	500	1.90	0.150	12.8	1.28	8.92
LNB- A6	600	2.28	0.180	15.3	1.53	10.7
LNB- A7	700	2.66	0.210	17.8	1.78	12.5

Option B (Burning permitted liquid fuels)						
Tons per year (TPY) Potential to emit limits established by selecting annual fuel use category regardless of boiler heat input rating or number of pieces of equipment. Sulfur content in fuel is limited to a maximum of 0.05% by weight.						
General Permit Number	Fuel Oil Gallons/Yr.	PM (TPY)	SO₂ (TPY)	CO (TPY)	VOC (TPY)	NO_x (TPY)
LNB- B1	200,000	0.200	2.84	0.54	0.140	0.830
LNB- B2	400,000	0.400	5.68	1.08	0.280	1.67
LNB- B3	600,000	0.600	8.52	1.63	0.420	2.50
LNB- B4	800,000	0.800	11.4	2.17	0.560	3.34
LNB- B5	1,000,000	1.00	14.2	2.71	0.700	4.17
LNB- B6	1,200,000	1.20	17.0	3.25	0.830	5.00
LNB- B7	1,400,000	1.40	19.9	3.80	0.970	5.84

<p style="text-align: center;">Option C <u>(Burning permitted gaseous fuels with backup of permitted liquid fuels)</u></p> <p>Tons per year (TPY) Potential to emit limits established by selecting annual fuel use category regardless of boiler heat input rating or number of pieces of equipment. Sulfur content in liquid fuels is limited to a maximum of 0.05% by weight.</p>						
General Permit Number	Natural Gas* MMCF/Yr.	PM (TPY)	SO₂ (TPY)	CO (TPY)	VOC (TPY)	NO_x (TPY)
LNB-C1	100	0.880	7.13	3.91	0.600	3.87
LNB-C2	200	1.26	7.16	6.46	0.860	5.66
LNB-C3	300	1.64	7.19	9.01	1.11	7.44
LNB-C4	400	2.02	7.22	11.6	1.37	9.22
LNB-C5	500	2.40	7.25	14.1	1.62	11.0
LNB-C6	600	2.78	7.28	16.7	1.88	12.8

* Option C includes the use of up to 500,000 gallons of applicable liquid fuel regardless of which gaseous fuel limit selected.

NOTE: For SO₂ and PM the PTE annual emissions listed in Options A, B and C were calculated using emission factors from AP-42, Fifth Edition, Volume 1, Chapter 1 (Fuel Oil Combustion 9/98, Natural Gas Combustion 7/98). NO_x, CO and VOC are based on ppm and lb./MMBTU values of 0.035 lb. NO_x/MMBTU natural gas, 0.06 lb. NO_x/MMBTU distillate oil, 0.05 lb. CO/MMBTU natural gas and 0.039 lb. CO/MMBTU distillate oil and 0.005 lb. VOC/MMBTU natural gas and 0.01 lb. VOC/MMBTU distillate oil.

FACILITY SPECIFIC REQUIREMENTS

COMPLIANCE PLAN: Boilers and other indirect fired external combustion equipment with a maximum heat capacity of less than 50 million BTU per hour, but greater than or equal to 10 million BTU per hour - Firing Natural Gas, Propane, No. 2 Fuel Oil, Diesel or Kerosene

Item No	Applicable Requirement	Monitoring Requirement	Record keeping Requirement	Submittal/ Action
1.			<p><u>OVERALL RECORDKEEPING</u></p> <p>A. Permittee shall maintain on site a copy of equipment manufacturer's specifications and instructions manual for the life of each piece of equipment and in-line flow meter;</p> <p>B. All other records shall be maintained on site for a period of 5 years, in either a permanently bound logbook or in a readily accessible computer memory. Supporting documentation shall include, but is not limited to, process flow diagram, process description, equipment specification data, stack heights, fuel delivery records and invoices, records of equipment repairs and corrective actions / preventive measures.</p> <p>C. All records including permit and certificate relating to this GP shall be made readily available for the Department's inspection on the operating premises.</p> <p>{N.J.A.C 7:27-8.13(a)}</p>	<p><u>OVERALL REPORTING</u></p> <p>In the event any one of the Applicable Requirement limits is exceeded, permittee shall submit a notification, in writing to the Regional Enforcement Office within 2 working days, from the date of occurrence of event.</p> <p>{N.J.A.C 7:27-8.13(d)4}</p>

Item No	Applicable Requirement	Monitoring Requirement	Record keeping Requirement	Submittal/ Action
2.	<p>Permitee shall ensure that all combustion equipment included in this permit meets the following:</p> <ol style="list-style-type: none"> 1. Certified for 0.0350 lb. NOx/MMBTU while combusting natural gas or propane 2. Certified for 0.0600 lb. NOx/MMBTU while combusting distillate oil, kerosene, or #2 fuel oil 3. Certified for 0.00500 lb. VOC/MMBTU while combusting natural gas or propane 4. Certified for 0.0100 lb. VOC/MMBTU while combusting distillate oil, kerosene, or #2 fuel oil 5. Certified for 0.0500 lb. CO/MMBTU while combusting natural gas or propane. 6. Certified for 0.0390 lb. CO/MMBTU while combusting distillate oil, kerosene, or #2 fuel oil. <p>{N.J.A.C 7:27-8.13(a)}</p>	None.	<p>The Permitee shall maintain manufacturer's certifications for each piece of equipment included in this permit that it is certified at the required levels.</p> <p>{N.J.A.C 7:27-8.13(d)}</p>	See Item No. 1

Item No	Applicable Requirement	Monitoring Requirement	Record keeping Requirement	Submittal/ Action
3.	<p>Permittee shall ensure combustion equipment is easily identifiable, by clear and conspicuous labeling, using Subject Item E-NJID and its Facility Designation. Permittee shall also maintain a process flow diagram showing locations of all combustion equipment and fuel monitoring device(s).</p> <p>{N.J.A.C 7:27-8.13(a)}</p>	None	See Item No. 1	None
4.	<p>Maximum No. of Billable Compliance Inspections <= 4 inspections. The equipment covered by this permit will be subject to inspection fees for the maximum periodic compliance inspections (as defined in N.J.A.C. 7:27-8.1) over the life of the Certificate, after it receives final approval for a five year duration. The permittee will be invoiced for a service fee per inspection pursuant to N.J.A.C. 7:27-8.6 after the periodic compliance inspection is conducted.</p> <p>[N.J.A.C. 7:27-8.13(e)].</p>	None	None	None

Item No	Applicable Requirement	Monitoring Requirement	Record keeping Requirement	Submittal/ Action
5.	<p>Permitee shall not use the equipment in a manner, which will cause visible emissions, exclusive of visible condensed water vapor, except for a period no more than 3 minutes in any consecutive 30-minute period.</p> <p>{N.J.A.C 7:27-3.2(a) & (c)}</p>	<p>The Permitee shall visually inspect the stack once each week during operation. Visual inspection shall consist of a visual survey to identify if the stack has visible emissions, (other than condensed water vapor). If visible emissions are observed the permittee shall do the following:</p> <ol style="list-style-type: none"> 1. Verify that the equipment causing the emissions is operating according to manufacturer's specifications. If the equipment is not operating properly, the permittee shall take corrective action to immediately eliminate the excess emissions. 2. If the corrective action taken in step one does not correct the opacity problem within 48 hours of the observation, the permittee shall immediately notify the Regional Enforcement office. <p>{N.J.A.C 7:27-8.13(d)3}</p>	<p>Permitee shall record each week in either a log book or in readily accessible computer memories the following:</p> <ol style="list-style-type: none"> 1. Date and time of the observation; 2. Operational status of the equipment; 3. The name of the person conducting the observation; 4. Was Smoke observed ? Yes or No. 5. Description of any corrective action taken; 6. Results of any corrective action if taken; <p>All records must be maintained for a minimum of 5 years and made available to the Department upon request.</p> <p>{N.J.A.C 7:27-8.13(d)3}</p>	See Item No. 1
6.	<p>Permitee shall ensure all combustion equipment in this general permit shall vent to a stack with a height no less than thirty-(30) feet.</p> <p>{N.J.A.C 7:27-8.13(a)}</p>	None		

Item No	Applicable Requirement	Monitoring Requirement	Record keeping Requirement	Submittal/ Action
7.	Allowable emission rate for particulates from the combustion of fuel shall be based on heat input rate to the equipment. {N.J.A.C 7:27-4.2}	None	None	None
8.	Prohibition of Air Pollution: Notwithstanding compliance with other subchapters of N.J.A.C. 7:27, no person shall suffer, allow, or permit to be emitted into the outdoor atmosphere substances in quantities that result in air pollution as defined at N.J.A.C. 7:27-5.1. Applicable to all facilities located in New Jersey. [N.J.A.C. 7:27-5]	None.	None.	None.
9.	Any operation of equipment which may cause off-property effects, including odors, shall be reported to the Department to the extent required by the Air Pollution Control Act, N.J.S.A. 26:2C-19(e). [N.J.S.A. 26:2C-19(e)]	Observation of plant operations. [N.J.S.A. 26:2C-19(e)]	Maintain a copy of all information submitted to the Department. [N.J.S.A. 26:2C-19(e)]	Notify by phone: Upon occurrence of event. A person who causes a release of air contaminants in a quantity or concentration which poses a potential threat to public health, welfare or the environment or which might reasonably result in citizen complaints shall immediately notify the Department. Such notification shall be made by calling the Environmental Action Hotline at (877) 927-6337. [N.J.S.A. 26:2C-19(e)]

Item No	Applicable Requirement	Monitoring Requirement	Record keeping Requirement	Submittal/ Action
10.	<p>The maximum allowable fuel oil (number 2 commercial fuel oil, diesel or kerosene) sulfur content that may be combusted shall be less than or equal to 0.05 wt %.</p> <p>{N.J.A.C 7:27-8.13(a)}</p> <p><u>Equipment subject to NSPS Dc</u></p> <p>The maximum allowable fuel oil (number 2 commercial fuel oil, diesel or kerosene) sulfur content shall be less than or equal to 0.5 wt %.</p> <p>{40 CFR 60.42c(d)}</p> <p>(Note: While Federal Standards limit sulfur content to 0.5 wt % all sources in this general permit must comply with a sulfur content limit of 0.05 wt %)</p>	<p>For each fuel oil delivery received, the Permittee shall review the certificate of analysis from the oil distributor for fuel oil sulfur content.</p> <p>{N.J.A.C 7:27-8.13(a)}& {40 CFR 60.44c(h)}</p>	<p>See Item No. 1</p> <p><u>Equipment subject to NSPS Dc</u></p> <p>The owner or operator shall maintain fuel supplier certifications pursuant to 40 CFR Part 60.48c(f) once per bulk fuel shipment. Records of the name of the oil supplier, and all other information specified at 40 CFR 48c(f)(2) shall be maintained for a period of two years following the date of such record.</p> <p>{40 CFR 60.48c(e)(11)}</p>	<p>See Item No. 1</p> <p><u>Equipment subject to NSPS Dc</u></p> <p>Submit a report every six months beginning on the 30th day of the sixth month following the initial performance tests. The report shall include the fuel supplier certifications, and the permittee's certification that the fuel supplier's certifications are representative of all the fuel combusted during the reporting period.</p> <p>{40 CFR 60.48c(e)(11)}</p>
11.	<p>The conditions of approval specified herein this Compliance Plan or Specific Facility Requirements, and any condition contained in the General Procedures for General Permits [pursuant to N.J.A.C. 7:27-8.3] thereof, shall be enforceable.</p> <p>{N.J.A.C 7:27-8.13(h)}</p>	None	None	None

Item No	Applicable Requirement	Monitoring Requirement	Record keeping Requirement	Submittal/ Action
12.	<p>Compliance with annual emission limits for each air contaminant (NO_x, VOC, CO, SO₂, and TSP/PM-10) shall be based on the actual fuel consumption. Permittee shall comply with annual self-imposed fuel limit.</p> <p>Total daily permitted liquid fuel (number 2 fuel oil, diesel or kerosene) shall not exceed 4,000 gallons</p> <p>{N.J.A.C 7:27-8.13(a)}</p> <p><u>Equipment subject to NSPS Dc</u></p> <p>The owner or operator shall record the amount of each fuel combusted in each piece of equipment each operating day.</p> <p>{40 CFR 60.48c(g)}</p>	<p>Permittee shall install and operate a in line flow meter monitoring the total amount of fuel burned:</p> <ol style="list-style-type: none"> 1. Daily for each piece of equipment included in this general permit. 2. Each 12 consecutive month period (rolling 1-month basis) for each piece of equipment included in this general permit. <p>{N.J.A.C 7:27-8.13(d)}</p> <p><u>Equipment subject to NSPS Dc</u></p> <p>The permittee shall monitor the amount of fuel combusted in each piece of equipment daily.</p> <p>{40 CFR 60.48c(g)}</p>	<p>Each day during operation the permittee will:</p> <ol style="list-style-type: none"> 1. Record the reading from each in-line flow meter. 2. Record all daily fuel usage for each piece of equipment and sum and record the individual daily fuel usage 3. Sum and record all monthly fuel usage to determine the monthly total fuel usage. 4. Sum and record the monthly total fuel usage with the previous eleven (11) month totals to determine the consecutive twelve (12) month total. <p>Records shall be made available to the Department in either a logbook or readily accessible computer memory for a minimum of 5 years.</p> <p>{N.J.A.C 7:27-8.13(d)3}</p> <p><u>Equipment subject to NSPS Dc</u></p> <p>The owner or operator shall keep records of the amount of each fuel combusted in each piece of equipment each operating day. The owner or operator shall maintain all required records for a period of two years following the date of such record.</p> <p>{40 CFR 60.48 c(g)}</p>	See Item No. 1

Item No	Applicable Requirement	Monitoring Requirement	Record keeping Requirement	Submittal/ Action																				
13.	<p>At least once every calendar year, the permittee shall adjust the combustion process of each external combustion equipment included in this general permit according to the following:</p> <p>1. Inspect burner, and clean or replace necessary components.</p> <p>2. Inspect flame patterns and the system controlling air-to-fuel ratio and make necessary adjustments to ensure optimum burner efficiency.</p> <p>3. Minimize the NOx & CO emissions consistent with manufacturer’s specifications.</p> <p>This combustion adjustment shall not occur sooner then nine (9) months after the previous combustion adjustment.</p> <p>{N.J.A.C 7:27-19.16}</p>	<p>The permittee shall monitor the combustion adjustment process according to the following procedure:</p> <p>1. Prior to the adjustment to the combustion process the concentration of nitrogen oxides, carbon monoxide and oxygen percentage in the exhaust stack shall be determined using a portable instrument meeting the following specifications:</p> <table><thead><tr><th>Pollutant</th><th>Range</th><th>Accuracy</th><th>Resolution</th></tr></thead><tbody><tr><td>NO</td><td>0 to 1000 ppm</td><td>± 2%</td><td>± 1 ppm</td></tr><tr><td>NO₂</td><td>0 to 100 ppm</td><td>± 2%</td><td>± 1 ppm</td></tr><tr><td>O₂</td><td>0% to 25 %</td><td>± 1%</td><td>± 0.1 %</td></tr><tr><td>CO</td><td>0 to 2000 ppm</td><td>± 2%</td><td>± 1 ppm</td></tr></tbody></table> <p>After the adjustments to the combustion process the concentration of nitrogen oxides, carbon monoxide and oxygen percentage in the exhaust stack shall be determined using a portable instrument meeting the specifications listed above in 1.</p> <p>2. The concentrations (dry) in parts per million (PPM) shall be converted to Pounds per million BTU (lb./MMBTU) according to the following calculations:</p> $\frac{lb.}{MMBTU} = \frac{Concentration \times MW \times F_{dry} \times O_{2(Correct Fac)}}{(387 \times 10^6)}$	Pollutant	Range	Accuracy	Resolution	NO	0 to 1000 ppm	± 2%	± 1 ppm	NO ₂	0 to 100 ppm	± 2%	± 1 ppm	O ₂	0% to 25 %	± 1%	± 0.1 %	CO	0 to 2000 ppm	± 2%	± 1 ppm	<p>Recordkeeping by manual logging of parameter annually. The permittee shall record the following:</p> <p>1. The date and times of the adjustment; the name, title and affiliation of the person who made the adjustment comprised of inspecting the burner, cleaning or replacing necessary components, inspecting the flame patterns and the system controlling air-to-fuel ratio and making necessary adjustments to ensure optimum burner efficiency;</p> <p>2. The concentration of NOx and CO and O2 percentage in the effluent stream in ppm prior to the adjustment to the combustion process;</p> <p>3. The concentration of NOx and CO and O2 percentage in the effluent stream in ppm after the adjustment to the combustion process;</p> <p>4. The converted emission values in lb./MMBTU for the measurements taken before the combustion adjustment and after the combustion adjustment;</p> <p>5. Description of any corrective action taken;</p> <p>6. Results from any subsequent tests preformed after any corrective action including concentrations and converted emission values in lb./MMBTU</p>	None
Pollutant	Range	Accuracy	Resolution																					
NO	0 to 1000 ppm	± 2%	± 1 ppm																					
NO ₂	0 to 100 ppm	± 2%	± 1 ppm																					
O ₂	0% to 25 %	± 1%	± 0.1 %																					
CO	0 to 2000 ppm	± 2%	± 1 ppm																					

Item No	Applicable Requirement	Monitoring Requirement	Record keeping Requirement	Submittal/ Action
		<p>Where:</p> $MW_{NO_x} = 46 \frac{lb}{lbmole}$ $MW_{CO} = 28 \frac{lb}{lbmole}$ $F_{dry(NaturalGas)} = 8710 \frac{dscf}{MMBTU}$ $F_{dry(DistillateOil)} = 9190 \frac{dscf}{MMBTU}$ $O_{2(CorrectFac)} = \frac{21\%}{(21\% - O_{2measured})}$ <p>{N.J.A.C. 7:27-8.13(d)}</p>	<p>Records shall be made available to the Department in either a logbook or readily accessible computer memory for a minimum of 5 years. [N.J.A.C. 7:27-8.13(d)]</p>	

Boilers and other Indirect Fired External Combustion Equipment
[10 MMBTU/hr or greater and less than 50 MMBTU/hr].
General Permit

Item No	Applicable Requirement	Monitoring Requirement	Record keeping Requirement	Submittal/ Action																				
14.	<p>At the same time as the annual combustion process adjustment listed in Item No. 12 the permittee shall conduct monitoring with the following emission levels after the annual combustion process adjustment has been performed:</p> <div><div>1. 0.0350 lb. NO_x/MMBTU while combusting permitted gaseous fuels</div><div>2. 0.0600 lb. NO_x/MMBTU while combusting permitted liquid fuels</div><div>3. 0.0500 lb. CO/MMBTU while combusting permitted gaseous fuels.</div><div>4. 0.0390 lb. CO/MMBTU while combusting permitted liquid fuels</div></div> <p>[N.J.A.C. 7:27-8.13(a)]</p>	<p>The permittee shall monitor the combustion adjustment process according to the following procedure (this may be conducted as part of the requirements of Compliance Plan Item No. 12) :</p> <div><div>1. Prior to the adjustment to the combustion process the concentration of nitrogen oxides, carbon monoxide and oxygen percentage in the exhaust stack shall be determined using a portable instrument meeting the following specifications:</div><table><thead><tr><th>Pollutant</th><th>Range</th><th>Accuracy</th><th>Resolution</th></tr></thead><tbody><tr><td>NO</td><td>0 to 1000 ppm</td><td>± 2%</td><td>± 1 ppm</td></tr><tr><td>NO₂</td><td>0 to 100 ppm</td><td>± 2%</td><td>± 1 ppm</td></tr><tr><td>O₂</td><td>0% to 25 %</td><td>± 1%</td><td>± 0.1 %</td></tr><tr><td>CO</td><td>0 to 2000 ppm</td><td>± 2%</td><td>± 1 ppm</td></tr></tbody></table><div>2. After the adjustments to the combustion process the concentration of nitrogen oxides, carbon monoxide and oxygen percentage in the exhaust stack shall be determined using a portable instrument meeting the specifications listed above in 1.</div><div>3. The concentrations (dry) in parts per million (PPM) shall be converted to Pounds per million BTU (lb./MMBTU) according to the calculations listed in Compliance Plan Item No. 12</div></div> <p>[N.J.A.C. 7:27-8.13(d)]</p>	Pollutant	Range	Accuracy	Resolution	NO	0 to 1000 ppm	± 2%	± 1 ppm	NO ₂	0 to 100 ppm	± 2%	± 1 ppm	O ₂	0% to 25 %	± 1%	± 0.1 %	CO	0 to 2000 ppm	± 2%	± 1 ppm	<p>Recordkeeping by manual logging of parameter annually procedure (this may be recorded as part of the requirements of Compliance Plan Item No. 12). The permittee shall record the following:</p> <div><div>1. The date and times of the adjustment; the name, title and affiliation of the person who made the adjustment comprised of inspecting the burner, cleaning or replacing necessary components, inspecting the flame patterns and the system controlling air-to-fuel ratio and making necessary adjustments to ensure optimum burner efficiency;</div><div>2. The concentration of NO_x and CO and O₂ percentage in the effluent stream in ppm prior to the adjustment to the combustion process;</div><div>3. The concentration of NO_x and CO and O₂ percentage in the effluent stream in ppm after the adjustment to the combustion process;</div><div>4. The converted emission values in lb./MMBTU for the measurements taken before the combustion adjustment and after the combustion adjustment;</div><div>5. Description of any corrective action taken;</div><div>6. Results from any subsequent tests preformed after any corrective action including concentrations and converted emission values in</div></div>	<p>If the measured lb./MMBTU values after the annual combustion process adjustment has been performed are found to be excess of the levels listed in this applicable requirement, item 13, the permittee shall perform the following:</p> <div><div>1. Corrective actions such as burner adjustment, repair or replacement shall be performed. Corrective action will be required until lb./MMBTU levels are less than or equal to the emission levels.</div><div>2. In the event that emission levels cannot be achieved after conducting corrective action for 48 hours the permittee shall notify the Regional Enforcement office in writing within three (3) working days.</div><div>3. The corrective actions taken shall be listed in records maintained as part of the Record keeping Requirement</div></div>
Pollutant	Range	Accuracy	Resolution																					
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			<p>lb./MMBTU</p> <p>Records shall be made available to the Department in either a logbook or readily accessible computer memory for a minimum of 5 years.</p> <p>[N.J.A.C. 7:27-8.13(d)]</p>	<p>in Item #12 & 13.</p> <p>[N.J.A.C. 7:27-8.13(d)]</p>
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Item No	Applicable Requirement	Monitoring Requirement	Record keeping Requirement	Submittal/ Action
15.	<p><u>Equipment subject to NSPS Dc with Equipment burning No. 2 Fuel Oil, Diesel or Kerosene and greater than or equal to 30 MMBTU per hour heat input</u></p> <p>Opacity <= 20 % except for one 6-minute period per hour of not more than 27% opacity. This opacity standard does not apply during periods of startup, shutdown or malfunction.</p> <p>[40 CFR 60.43c(c)]</p> <p>(Note: This requirement is in addition to New Jersey requirement #5 requiring weekly checks for visible emissions for all equipment in this General Permit.</p>	<p>The permittee shall conduct an opacity observation once initially and repeated every 5 years thereafter. The observation shall be conducted as specified at 40 CFR 60.8 using test methods as specified at 40 CFR 60.45c</p> <p>[40 CFR 60.45c(a)]</p>	<p>The permittee shall keep records of the initial and all subsequent performance tests.</p> <p>[40 CFR 60.48c(i)]</p>	<p>The owner or operator shall submit to the Administrator of EPA the data from the initial and all subsequent performance tests.</p> <p>[40 CFR 60.48c(b)]</p>